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KENNEDY COVINGTON LOBDELL & HICKMAN, LLP  
214 N. TRYON STREET  
HEARST TOWER, 47TH FLOOR  
CHARLOTTE, NC 28202

EXAMINER

LORENZO, JERRY A

ART UNIT PAPER NUMBER

1734

DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/034,106

Applicant(s)

MCCOY ET AL.

Examiner

Jerry A. Lorengo

Art Unit

1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 12-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-11 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☒ Claim(s) 1-24 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/27/01.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

(1)

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-20, drawn to a method of making a decorative sheet material, classified in class 156, subclass 230.
- II. Claims 21-24, drawn to an apparatus for making a decorative sheet material, classified in class 156, subclass 540.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process whereby first and second coating and a drying means are utilized to dispose a first and second coating upon a fabric web (for example) to form a resin impregnated fabric which has waterproof qualities.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter as shown by their different classification, restriction for examination purposes as indicated is proper.

This application contains claims directed to the following patentably distinct species of the claimed invention:

*Group IA:* Comprising claims 1-11 and drawn to a method of making a decorative sheet material wherein a flexible carrier film is coated with a first, second, third and fourth coating layers with drying steps occurring after the deposition of the second and fourth coating layers;

*Group IB:* Comprising claims 12-18 and drawn to a method of making a decorative sheet material whereby a flexible carrier film is directed from a supply roll onto the peripheral surface of a cylindrical coating roll for the deposition of a first fluoropolymer coating layer and second pigmented color coating layer by a first and second coater positioned adjacent the coating roll; and

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*Group IC:* Comprising claims 19-20 and drawn to a method of making a decorative sheet material whereby a flexible carrier film is directed through a coating station for the deposition of a first coating layer comprising a PVDF/solvent clear coat layer followed by the deposition of a second coating layer comprising an acrylic polymer/pigment/solvent color coat composition on the undried surface of the first coating layer followed by drying at a specific temperature and collecting the formed sheet material into a roll.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Ms. Allyn Rhodes on 01/23/2004 a provisional election was made with traverse to prosecute the invention of Group I, and specifically Group IA, claims 1-11. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-24 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

(2)

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 7 discloses that the high boiling solvent component utilized is selected from the group containing "DMP" and "DBA." There is, however, no description in the specification as to what the terms "DMP" and "DBA" describe. In the interest of compact prosecution, it has been assumed that DMP refers to dimethyl phthalate and DBA refers to dibutylamine.

(3)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,985,079 to Ellison in view of U.S. Patent No. 4,818,589 to Johnson et al. or JP 2000-263589.

Regarding applicant claim 1, Ellison discloses a method for the formation of a decorative sheet material comprising the steps of:

- (1) Directing a flexible carrier material 13 through a coating station (column 4, lines 4-5);
- (2) Depositing onto the flexible carrier material 13, a first solvent-based transparent (clear coat) coating film 11 (column 4, lines 15-26);
- (3) Depositing onto the first transparent coating film 11, a solvent-based pigmented polymer layer 12 (column 8, lines 22-36);
- (4) Directing the flexible carrier material with coated layers 11 and 12 through a drying station (column 9, lines 1-21);
- (5) Depositing an adhesive layer onto the pigmented polymer layer 12 (column 10, lines 57-65); and
- (6) Laminating a thermoformable backing layer 14 to the adhesively coated pigmented polymer layer 12 (column 10, lines 57-65). The finished decorative sheet material of Ellison is illustrated below:

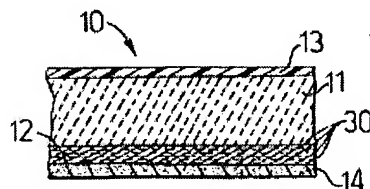


FIG. 3.

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Although Ellison discloses that an adhesive layer is coated onto the pigmented polymer layer 12, he does not specifically disclose, as per applicant claim 1, that a solvent-based primer layer is disposed between them or that the adhesive is also solvent-based and that after coating of the adhesive, the laminate is again directed through a drying station to dry the primer and adhesive layers.

Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize a primer coating between the pigmented polymer layer 12 and adhesive coating of Ellison motivated by the fact that Johnson et al., also drawn to methods for the formation of decorative materials useful in the formation of thermoformable paint films, disclose that it is known to improve interfacial bonding between the adhesive and colored layers of the decorative film by priming, i.e., via the application of a primer (column 8, lines 62-65) and furthermore by the fact that Ellison contemplates the use of primers with the adhesive utilized in the formation of his decorative material (column 11, lines 15-17).<sup>1</sup> Although Johnson et al. is silent as to the form of primer applied, the skilled artisan would have been appreciative of the fact that solvent bases primers, such as those compounded on acrylic and urethane resins, are well known in the art.

Although Ellison does not specifically disclose that the primer and adhesive coated laminate is passed through a dryer after coating, it would have been obvious to one of ordinary skill in the art at the time of invention to do so motivated by the fact that Johnson et al. also disclose that it is known, when disposing a solvent-cast adhesive layer onto the decorative sheet material, to pass the adhesively coated material through a dryer (column 10, line 58 to column 11, line 22).

Regarding applicant claim 3, Ellison discloses that the clear-coat and pigmented layers are applied by directing the carrier past sequentially arranged first and second coaters (Figure 1).

Regarding applicant claim 8, Ellison discloses that after disposition of the adhesive layer, a thermoformable backing layer 14 to the adhesively coated pigmented polymer layer 12 (Figure 2; column 10, lines 57-65).

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<sup>1</sup> As further evidence of the obvious use of primers, JP 2000-263589, also drawn to methods for the formation of transferable decorative laminates useful in injection molding, disclose that the deposition of a primer layer 5 between a pigmented layer 4 and an adhesive layer 6 is known (abstract; Figure 1A and 2).

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Regarding applicant claim 9, Ellison discloses that the thermoformable backing layer may comprise acrylonitrile-butadiene-styrene (ABS) which is laminated to the adhesively coated pigmented polymer layer 12 through the use of nip rolls (column 11, lines 22-30; Figure 2).

(4)

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as combined in section (3), above, in view of U.S. Patent No. 6,096,396 to Patton et al.

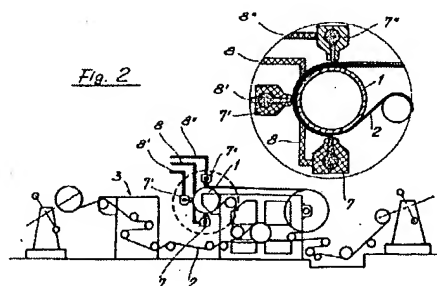
Although Ellison discloses that the solvent-based transparent (clear coat) coating film 11 may comprise a fluoropolymer such a polyvinylidene fluoride (PVDF), he does not specifically disclose that the solvent utilized is dimethyl phthalate (DMP) or dibutylamine (DMA).

Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize a high boiling solvent for the PVDF of Ellison motivated by the fact that Patton et al., also drawn to methods for the formation of decorative sheet materials, disclose that solvent-based clear coat compositions based on PVDF may be solvated using a high boiling solvent such as dimethyl phthalate (column 4, lines 43-52).

(5)

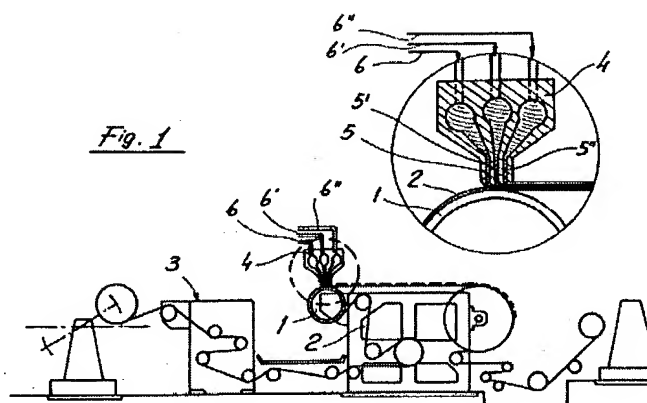
Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as combined in section (3), above, in further view of DE 3235151 A1 to Scansani.

Ellison discloses that the clear-coat and pigmented layers are applied by directing the carrier past sequentially arranged first and second coaters (Figure 1). He does not, however, specifically disclose the arrangement of a plurality of slot die coaters arranged around a coating roll upon which the carrier is disposed, as set forth in applicant claims 4 and 5. Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute such an arrangement for that disclosed by Ellison motivated by the fact that Scansani, also drawn to methods for the formation of multiple coated films on a carrier web, disclose that such an arrangement is known and allows for the deposition of sequential coating layers on a backing web in a single operation and thus saves costs (abstract; Figure 2). The method of Scansani is illustrated below:



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Regarding applicant claim 6, Scansani discloses that the coaters may comprise separate single slot coating dies arranged around the coating roll or may alternatively be combined into a single multi-slot coating dies mounted adjacent the coating roll as illustrated below:



(6)

Claims 1, 3 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/51799 to Fields et al. in view of U.S. Patent No. 4,818,589 to Johnson et al. or U.S. patent No. 5,985,079 to Ellison.

Regarding applicant claim 1, Fields et al. disclose a method of making a decorative sheet material comprising the steps of (Figure 7, page 12, line 11 to page 13, line 17):

(1) Directing a flexible carrier film 33 through a coating station 40 where first coating layer of clear coat 22 is applied thereto;

(2) Depositing onto the first coating layer 22 a second coating layer of a pigmented color coat layer 24 by a sec;

(3) Directed the clear coat and color coated flexible carrier 33 through a dryer 46 to dry the clear coat 22 and pigmented color coat layer 24;

(4) Directing the thus coated carrier film 33 through a coating station 48 where a third coating of solvent-based primer composition 26 is applied to the pigmented color coat layer 24;

(5) Depositing onto the primer composition layer 26 a fourth coating of solvent-based adhesive 28; and

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(6) Directing the primer and adhesive coated flexible carrier film (previously coated with the clear coat and pigmented color coat) through a dryer 51.

Although Fields et al. disclose that the primer and adhesive are solvent-based, they do not specifically disclose, as per applicant claim 1, that the clear coat and color coat layers are solvent-based as well.

Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize solvent-based clear and pigmented color coatings in the method of Fields et al. motivated by the fact that Johnson et al. and/or Ellison, both also drawn to methods for the formation of transferable decorative sheet materials, disclose a similar construction comprising a carrier film, clear coat, pigmented color coat and adhesive coat wherein the clear coating and pigmented color coating are coated on the carrier with solvent-based coatings (column 10, line 58 to column 13, line 22 of Johnson et al. and column 4, lines 23-26 and column 8, lines 22-31 of Ellison).

Regarding applicant claim 3, Fields et al. and Ellison disclose that the first and second coating layers are carried out by directing the carrier web past a first and second successively arranged coaters (Figure 2 of Ellison and Figure 7 of Fields et al.).

Regarding applicant claim 8, both Fields et al. and Ellison disclose that after application of the adhesive layer to the decorative sheet material, a thermoformable backing layer is laminated thereto (Figure 7 and page 13, lines 18-21 of Fields et al. and Figure 2; column 10, lines 57-65 of Ellison).

Regarding applicant claim 9, Ellison discloses that the thermoformable backing layer may comprise acrylonitrile-butadiene-styrene (ABS) which is laminated to the adhesively coated pigmented polymer layer 12 through the use of nip rolls (column 11, lines 22-30; Figure 2).

Regarding applicant claims 10 and 11, Fields et al. disclose that the decorative sheet material is provided with a mask coat through steps comprising (Figure 8; page 13, line 22 to page 14, line 12):

- (1) Directing a flexible carrier film 34 through a coating station 60;
- (2) Depositing onto the surface of the carrier film 34 a coating layer of mask coat composition 20;

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(3) Directing the mask coated carrier 34 through a dryer 62 to form a dried mask layer 20;

(4) Advancing the thus coated carrier film with said mask layer 20 toward a heated nip 64,65;

(5) Advancing the decorative sheet material comprising the carrier 40, clear coat 22, pigmented color coat 24, primer coat 26 and adhesive coat 28 toward the same heated nip 64,65 with the coated surface oriented toward the mask layer 20 of the mask coated carrier 34;

(6) Stripping the flexible carrier 40 from the decorative sheet material; and applying heat and pressure to the mask coated carrier 34 and the decorative sheet material as they pass through the nip 64,65 to bond the mask layer to the first coating layer (clear-coat) 22.

(7)

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as combined in section (6), above, in further view of DE 3235151A1 to Scansani.

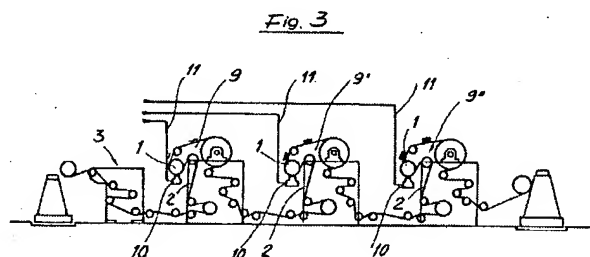
The references as combined in section (6), above, disclose a method for the formation of a decorative sheet material whereby each of the coating layers are applied to a carrier sheet by way of sequentially arranged coaters disposed upon a path upon which the carrier sheet is fed.

Specifically, the references combined are silent as to the coating methodologies set forth in applicant claims 4 (first and second coaters arranged around a coating roll upon which the carrier is disposed), 5 (wherein the first and second coaters comprise slot coating dies) and 6 (wherein the first and second coaters are incorporated into a multi-slot die).

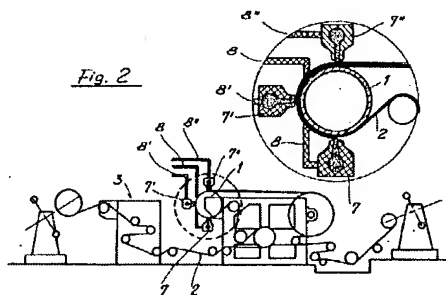
Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute the sequentially disposed coaters of Fields et al. with the coating arrangements set forth in applicant claims 4, 5 and 6 motivated by the fact that Scansani, also drawn to methods for the formation of multiple coated films on a carrier web, disclose that such coating arrangements are known functional expedients and also allow (in the case of a plurality of closely arranged slot dies or a combined multi-slot die) for the deposition of sequential coating layers on a backing web in a single operation thus saving costs (abstract; Figure 1-3). The coating methodologies of Scansani are illustrated below:

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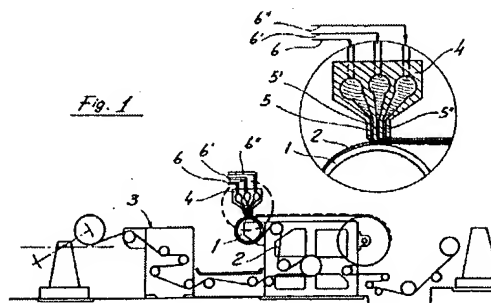
The sequential arrangement of coaters along a web path (such as taught by Fields et al.) is illustrated by Figure 3 of Scansani below:



The arrangement of a plurality of slot die coaters arranged around a coating roll upon which the carrier is disposed (such as taught by applicant claims 4 and 5) is illustrated by Figure 2 of Scansani below:



The arrangement incorporating a plurality of coaters in a multi-slot die (such as taught by applicant claim 6) is illustrated by Figure 1 of Scansani below



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(8)

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as combined in section (6), above, in view of U.S. Patent No. 6,096,396 to Patton et al.

Although both Fields et al. and Ellison disclose that the solvent-based transparent (clear coat) coating film may comprise a fluoropolymer such a polyvinylidene fluoride (PVDF), they do not specifically disclose, as per applicant claim 7, that the solvent utilized is dimethyl phthalate (DMP) or dibutylamine (DMA).

Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize a high boiling solvent for the PVDF of Fields et al. or Ellison motivated by the fact that Patton et al., also drawn to methods for the formation of decorative sheet materials, disclose that solvent-based clear coat compositions based on PVDF may be solvated using a high boiling solvent such as dimethyl phthalate (column 4, lines 43-52).

(9)

***Allowable Subject Matter***

Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Methods for the formation of decorative sheet materials through the disposition of multiple, overlaying coatings, such as those discussed above, are known in the art. None of the prior art of record, however, specifically teach or suggest the method of applicant claim 2 wherein the clear coat and pigmented color coat are disposed on a carrier during a first pass through a coating station followed by the further deposition of a primer coat and adhesive coat thereon during a second pass through the same coating station.

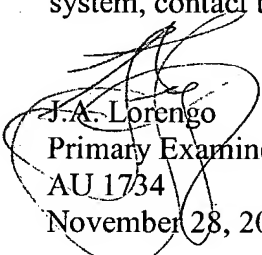
(10)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Lorengo whose telephone number is (571) 272-1233. The examiner can normally be reached on Monday through Friday, 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino, can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J.A. Lorengo  
Primary Examiner  
AU 1734  
November 28, 2000